STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

June 18, 2014
Honolulu, Hawaii

Stream Channel Alteration Permit (SCAP.3854.3/2864.3) Modification
Honolulu Authority for Rapid Transportation
Waiawa Stream and Tributary, Honolulu, O'ahu, TMKs: various

APPLICANT:
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Honolulu Authority for Rapid Transportation
1099 Alakea Street, Suite 1700
Honolulu, HI 96813

LANDOWNER:
City and County of Honolulu
Department of Transportation Services
650 South King Street, Third Floor
Honolulu, HI 96813

SUMMARY OF REQUEST

On June 29, 2011, the Commission on Water Resource Management ("Commission") approved a Stream Channel Alteration Permit (SCAP.2864.3) for the Honolulu Authority for Rapid Transportation (HART) to construct rail bridges across the Waiawa, Kapālama, Moanalua and Nu'uanu Streams (Oahu).

HART now seeks to modify its SCAP.2864.3 (2011) with regard to the Waiawa Stream (Stream) and Waiawa Stream Tributary (Tributary). This modification (now SCAP.3854.3) describes three phases of construction. The main changes are as follows:

1. Fill in and divert the Tributary into a 36-inch pipe and permanent storm drain and drain it into the Stream; and,

2. Portions of the Stream will be lined with vegetated reinforced soil slope (VRSS), rock keys, and gravel cobble to prevent erosion and scour and protect permanent transit system structures.

LOCATION: The "banana patch" neighborhood across from Navy housing and the Pearl Highlands Center on Kamehameha Highway (see Exhibit 1).

BACKGROUND

HART proposes to provide rapid transit between Kapolei and Ala Moana Center. The project will begin in Kapolei, proceed east via Farrington and Kamehameha Highways to the Airport, then to Dillingham Blvd and Nimitz Highway, to Halekauwila Street, and end at Ala Moana Center.

On June 29, 2011, the Commission approved SCAP.2864.3 which authorized the following construction close to or within the stream channel:

- One six-foot by six-foot guideway column close to the stream channel.
- Two five-foot by five-foot station columns within the stream channel.
- Five-foot diameter drilled shaft for the station foundation columns and a 10-foot diameter drilled shaft for the guideway column. The drilled shafts were to be drilled 200 feet below the mud line. The foundations would not be visible post-construction.
- Hardening of the current drainage ditch outfall under Kamehameha Highway with a trapezoidal riprap swale to be 100-feet long, three-feet wide at the bottom, nine-feet wide at the top and three-feet deep.

Stream Restoration work included:

- Remove fill and increase the stream area to enhance flow capacity of the flood zone.
- Use native Hawaiian plants and non-invasive species to restore the ecology.
- Retain silt fences and other stream bank best management practices (BMPs) until vegetation is established.

In August 2012, a legal challenge to HART's project resulted suspended all ground disturbing activities.

On August 20, 2013, the Commission received a complete SCAP modification application.

On September 11, 2013, a letter acknowledging receipt of the SCAP modification application was sent to the applicant, initiating the Commission's process for agency review.

On March 28, 2014, HART provided additional information, including tentative construction dates, excavation and fill amounts, and other status updates.

DESCRIPTION

The Waiawa Stream watershed is 26 square miles. Its headwaters are in the Ko'olau Mountains and flow into Pearl Harbor. Total Stream length is 79 miles. The Tributary length is about 120 feet long and begins at the Kamehameha Highway drainage outfall. The Stream and Tributary are classified as an interrupted perennial stream because, while continuously flowing in the uplands, there is no flow in a lowland segment during the dry season. The Tributary is perennial in the project area due to spring flow.

Waiawa Stream supports some native amphidromous fauna. There will not be any structures permanently placed in the stream that would impede migration and access, or affect the cross-sectional flow of the stream. Therefore, the project is not anticipated to interfere with the local population of goby observed, or migration through the site required by native fauna that may breed upstream. Specially selected vegetation, which includes native flora, will be planted to stabilize slopes and provide habitat following a planting plan and materials list. Invasive tree species will be removed following a tree disposition plan.

The biological environment at this location will be altered by the clearing and grading associated with (a) permanently piping the Tributary so that water no longer ponds at the stream's head, (b) installing armoring in the Stream and Tributary, (c) performing no-rise grading to maintain floodway hydrology, and (d) placing VRSS, rock keys, and gravel cobble along the mauka bank of the Stream. Five acres near the Tributary between Kamehameha and Farrington Highways will be shaded by structures (a park-and-ride parking structure, bus transit center, station and guideway, and various pedestrian and vehicle access ramps), roughly one-third of the area. Direct impacts on the Stream, including shading, will be minimal because most of the structures are on the north side of the Stream.

Temporary and permanent work in or near the Stream and Tributary is as follows:

Phase 1: Consists of the construction of a transit vehicle guideway support column (Pier 261) and pile cap within the OHWM of the Tributary (see Exhibit 2). BMP's will be provided to control erosion and possible turbidity generated during column construction and associated grading. The Tributary will be diverted through a temporary 36-inch storm drain pipe that will discharge into the Stream. A portion of the temporary pipe will be below the existing OHWM of the Tributary and fill will be required to stabilize the pipe. Dewatering the work area will be required.

Some gabions will be placed below the OHWM of the stream to prevent undermining and erosion. The temporary work area water isolation will be removed once the gabions are in place. The temporary storm drain pipe and gabions will remain in place between Phase 1 and Phase 2 to provide bank stabilization and erosion control. Some of the excavation for Piers 255, 256, 260, and 262 are within or near the Stream or Tributary channel. However, the location is above the OHWM (see Exhibit 3).

Phase 2: Fill in the Tributary and install a 36-inch pipe and permanent storm drain to drain it into the Stream (see Exhibit 4). This alternative was chosen for several reasons. Eliminating the current ponding situation will decrease the potential threat of mosquito infestation beneath the Pearl Highlands Station. Piping the tributary allows it to be buried below the final grade of the area, and the slight realignment allows it to avoid the support columns that will be constructed throughout the surrounding area. The existing drop inlet at the intersection of Kuala Street and Kamehameha Highway will be retrofitted with a grate inlet filter to filter out large debris. Piping and filling the depression in the Tributary to create a smooth, armored, finished surface provides scour protection from Stream floods. During the 100-year flood frequency, stream flood flow in the vicinity of the tributary is estimated to be greater than 35,000 cubic feet per second and

deeper than 20 feet. The project is required to maintain a certification of "no-rise" in the flood zone elevation in the area. The armored surface would protect the Pearl Highlands Station foundations from scour and provide a surface that equipment can drive upon to remove debris, vegetation, and sediment build-up in order to maintain the no-rise certification. Opened-celled armoring with plantings will be provided in sunlit areas that accommodate plant growth. After construction, access for maintenance activities will be necessary and the buried pipe will make access easier.

The first portion of the permanent bank stabilization with VRSS and rock keys will be installed along the mauka bank of the Stream. Water isolation barriers will be installed in the Stream to provide work area isolation during the replacement of gabions by permanent VRSS, rock key slopes, and gravel cobble along the Stream's mauka bank, and to allow rock key stabilization of the Farrington Highway Bridge abutment and wing walls to be placed.

Phase 3: Consists of installing the remainder of the VRSS, rock key slopes, and gravel cobble along the mauka bank of the Stream (see Exhibits 5, 6 and 7). Water isolation barriers will be placed to temporarily isolate the work area during construction. This alternative was selected because it allowed for the necessary amount of stabilization while also allowing for a partially-natural bank. The stream banks in this area are currently unmodified and the use of VRSS means that the banks will remain mostly vegetated. The environment will largely mirror the existing conditions. It also will reduce the potential for the discharge of urban fill sediments, as field investigations show that significant portions of the mauka bank to be composed of urban fill and waste materials. This low maintenance alternative has been found to be effective and generally quick to establish itself.

ANALYSIS

Agency Review Comments:

City and County of Honolulu, Dept. of Planning and Permitting: No response.

Department of Hawaiian Home Land (DHHL): DHHL owns 20 acres across the highway from the project site and is concerned about flooding, drainage, and erosion.

DLNR Aquatic Resources: The proposed activity is not expected to have any significant impact on the aquatic resource values in these areas. The installation and construction of guideway support column within the stream should not block the total stream flow especially during rainfall events to accommodate the upstream migration of post larval fauna and allow the passage of larval drift to the ocean should recruitment or spawning occur. The temporary diversion pipe and permanent storm drain pipe up and downstream openings should be level and conform to the stream channel bottom to allow upstream migration of native stream animals. Mitigative measures and BMPs should be implemented during the construction of the guideway support column within the stream channel to minimize the potential for erosion, siltation and pollution of the aquatic environment: 1) lands denuded of vegetation should be planted or covered as quickly as possible to prevent erosion and the vegetation cleared along stream banks

should be removed and prevented from falling into the stream environment; 2) scheduling site work (particularly construction of the guideway and station columns) during periods of minimal rainfall; and, 3) prevent construction materials, petroleum products, debris and landscaping products from falling, blowing or leaching into the aquatic environment.

DLNR, Engineering: No response.

DLNR, Forestry and Wildlife: No response.

DLNR, Historic Preservation: No response.

DLNR, Land Division: No objections.

DLNR, State Parks: No objections.

DOH, Clean Water Branch: No response.

Office of Hawaiian Affairs: No response.

US Army Corps of Engineers: No response.

US Fish and Wildlife Service: No response.

University of Hawaii, Environmental Center: No response.

Hawaii Revised Statutes (HRS) Chapter 343, Environmental Review

DOH, Office of Environmental Quality Control: An environmental impact statement was triggered because State and County lands and funds are used for the project (Haw. Rev. Stat. §343-5(a)). On July 8, 2010, a Final Environmental Impact Statement (FEIS) was published in the Environmental Notice. On December 16, 2010, the Governor accepted the FEIS. On January 18, 2011, the Federal Transit Administration issued an environmental Record of Decision.

Staff Review

Haw. Rev. Stat. § 174C-71(3) provides that the Commission regulate construction activities in streams to protect stream channels from alteration whenever practicable, to provide for fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses. Instream uses are the beneficial uses of stream water for significant purposes which are located in the stream and which are achieved by leaving the water in the stream. Instream uses include, but are not limited to the maintenance of aquatic life and wildlife habitats; outdoor recreation; maintenance of ecosystems such as estuaries, wetlands, and stream vegetation; aesthetic values such as waterfalls and scenic waterways; navigation; hydropower; maintenance of water quality; the conveyance of irrigation and domestic water supplies to downstream points of diversion; and the protection of

traditional and customary Hawaiian rights. Hawaii Administrative Rule ("HAR") §13-169-52(c)) set out the criteria for ruling on SCAP applications:

(1) Channel alterations that would adversely affect the quantity and quality of the stream water or the stream ecology should be minimized or not be allowed.

Water resource mitigation is proposed to compensate for the 0.02-acre permanent encroachment into "waters of the U.S." from the linear transportation features of the project and 0.06-acre of impact from the loss of the Tributary. The proposed permanent mitigation measures are intended to satisfy the requirements of the U.S Army Corps 33 C.F.R. Part 332 - Compensatory Mitigation of Losses of Aquatic Resources. This 17-acre site provides sufficient space for mitigation since only five acres will be required for the substation, leaving the remainder of the site available for mitigation. The Stream was selected because enhancement of the Stream and potential establishment of a wetland are possible with a high degree of long-term success. Mitigation in this location can also be used to improve the existing outfall, improve water quality, and enhance the natural setting of the station. Mitigation will include:

- Enhancement of the Stream to restore and/or improve ecological and aquatic function.
- Establishment of water quality basins.
- Enhancement of floodway capacity conveyance to achieve no-rise in the flood zone by removal of fill and an increase in the Stream area.
- Extension of the existing culvert into the Tributary to correct existing ponding.
- Ecological restoration with native Hawaiian plantings and use of non-invasive species.

CWRM staff believes that the environmental impacts from the project will be mitigated by City, County, State and Federal environmental regulations by:

- FTA Record of Decision and Final Environmental Impact Statement.
- Section 106 and Section 4(f) Programmatic Agreement.
- Section 404 Clean Water Act, Water Quality Certification, Monitoring and Assessment Plan and NPDES Permit.
- U.S Army Corps Compensatory Mitigation of Losses of Aquatic Resources requirements.
- Project and site-specific best management practice plans.

(2) Where instream flow standards or interim instream flow standards have been established, no permit shall be granted for any channel alteration which diminishes the quantity or quality of stream water below the minimum established to support identified instream uses.

The interim instream flow standard for all streams on Leeward Oahu shall be that amount of water flowing in each stream on the effective date of this standard (Oct. 19, 1988), and as that flow may naturally vary throughout the year (HAR §13-169-49). The identified instream uses of the Stream include fish habitat, stream flow contribution to the nearshore waters, and one downstream diversion. The quantity and quality of the Stream remains unchanged. Due

to existing ponding and its short length, the Tributary showed little contribution to fish habitat or other public trust purposes.

(3) The proposed channel alteration should not interfere substantially and materially with existing instream or non-instream uses or with channel alterations previously permitted.

There are three existing artesian wells (Nos. 3-2459-016, 017, 025) in domestic service located under the parking and bus transit structure but not within the Stream or Tributary channel. It is possible that closure of the three wells may change the flow of spring water in the (former) Tributary. There are numerous other wells under artesian conditions in the area. Construction is not expected to impact these wells. However, artesian conditions may affect support column borings. If this occurs, HART should take actions to mitigate this impact. There are four previously permitted SCAP's consisting of drainage outfalls into the Stream and one stream diversion located almost one-half mile downstream. BMP's will be provided to control erosion and possible turbidity generated during column construction and associated grading. The proposed stream bank hardening on the mauka side only of the Stream is not expected to adversely impact the existing instream or non-instream uses or with channel alterations previously permitted.

RECOMMENDATION

1. APPROVE the Stream Channel Alteration Permit (SCAP.3854.3) modification application to the City and County of Honolulu, Honolulu Authority for Rapid Transportation to:

   (a) Fill in the Waiawa Tributary and divert into a 36-inch pipe and permanent storm drain and drain it into the Waiawa Stream; and
   (b) Line portions of the Waiawa Stream with vegetated reinforced soil slope, rock keys, and gravel cobble to prevent erosion and scour and protect permanent transit system structures adjacent to and within the Waiawa Stream and Tributary, Honolulu, O'ahu, located on various TMK's subject to the standard conditions in Exhibit 8.

2. Properly seal Well Nos. 3-2459-016, 017, 025 in accordance with HAR §13-168.

Respectfully submitted,

William M. Tam

WILLIAM M. TAM
Deputy Director

Exhibits:

1. Location Map.
2. Guideway Profile Over Waiawa Tributary Phase 1.
3. Guideway Profile Over Waiawa Stream Phase 1.
4. Permanent Storm Drain Plan.
5. Streambank Protection (1 of 3) Phase 3.
6. Streambank Protection (2 of 3) Phase 3.
7. Streambank Protection (3 of 3) Phase 3.
8. Standard Stream Channel Alteration Permit Conditions.

APPROVED FOR SUBMITTAL:

WILLIAM J. AILA, JR.
Chairperson

Location Map.

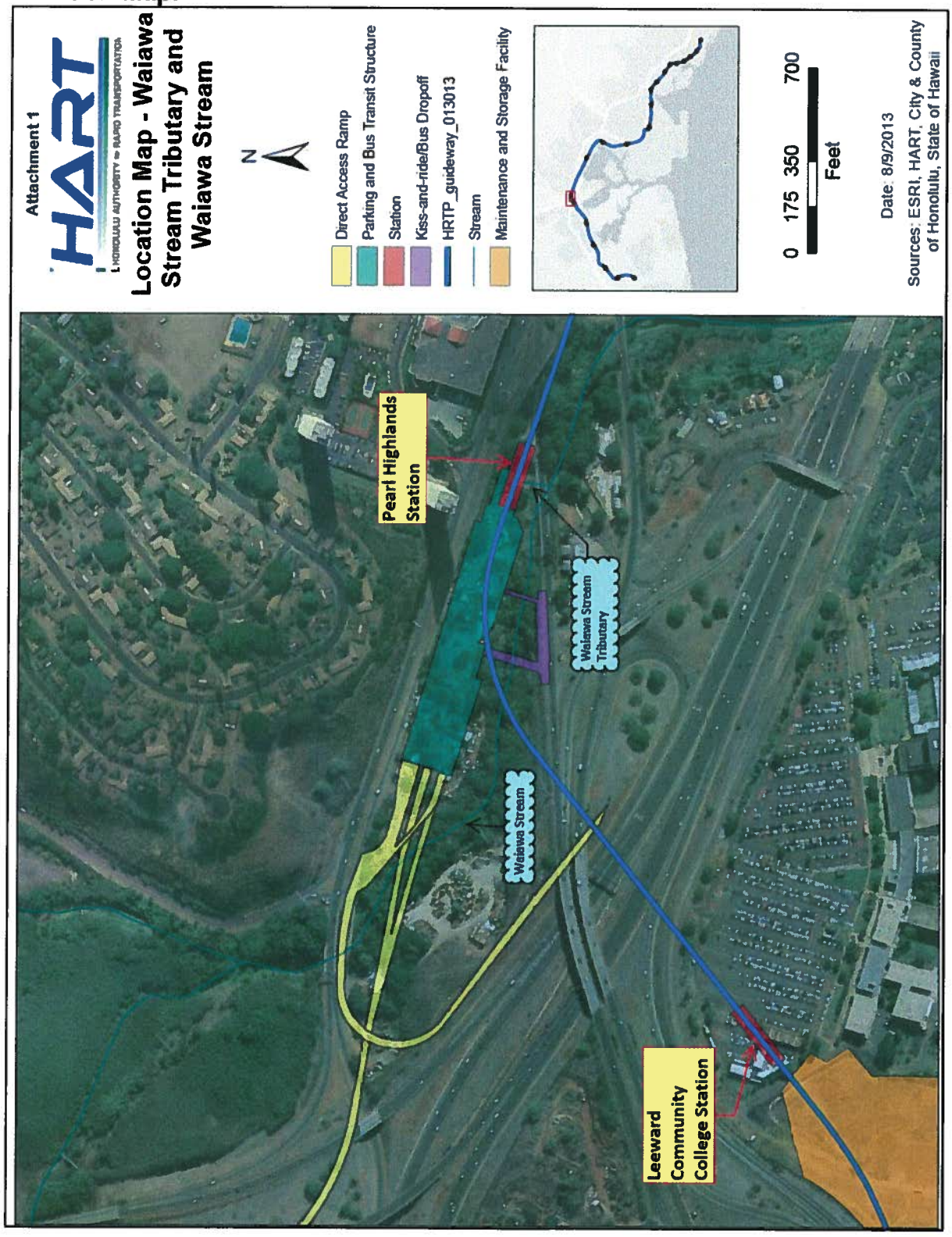

EXHIBIT 1

Guideway Profile Over Waiawa Tributary Phase 1.

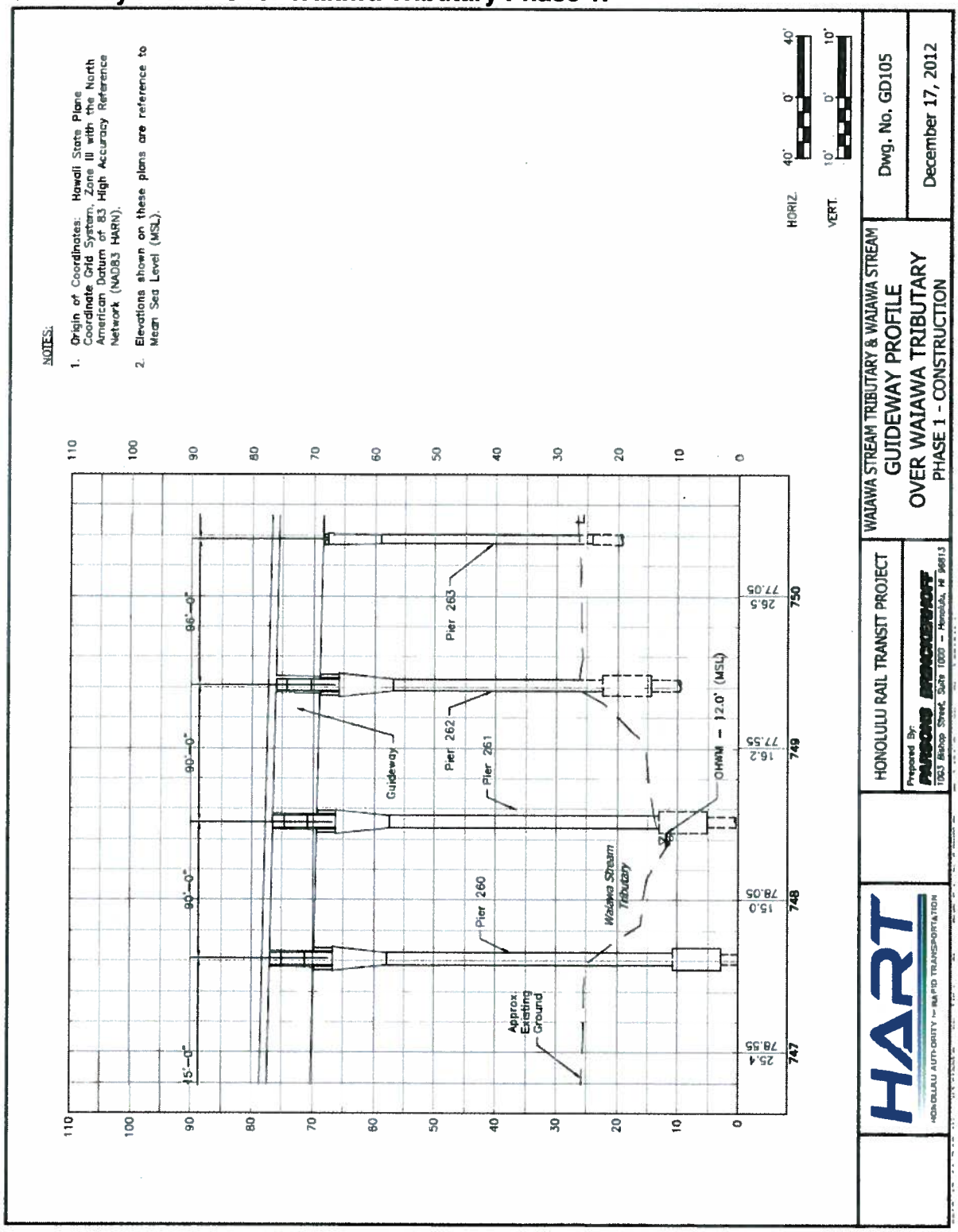

EXHIBIT 2

Guideway Profile Over Waiawa Stream Phase 1.

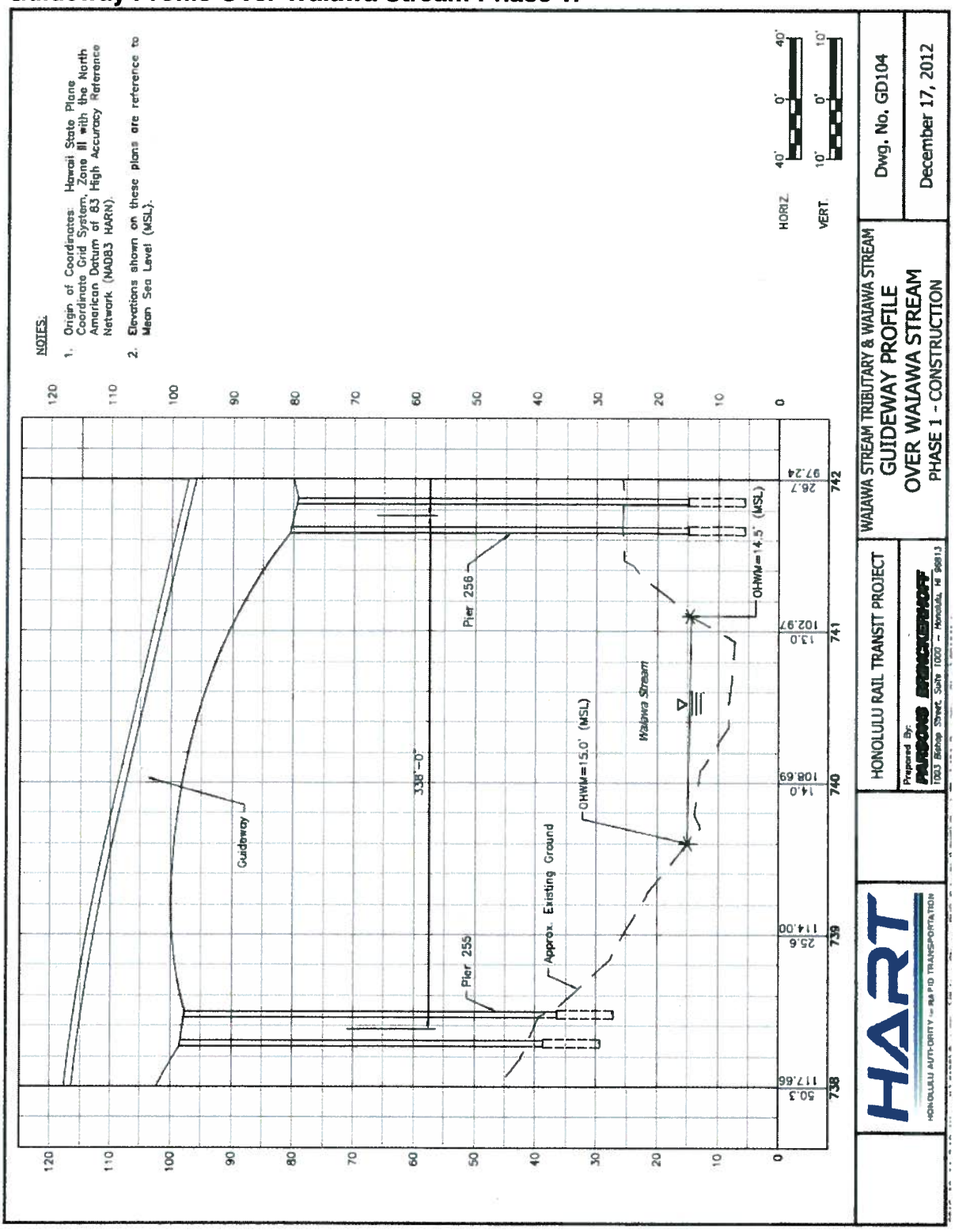

EXHIBIT 3

Permanent Storm Drain Plan.

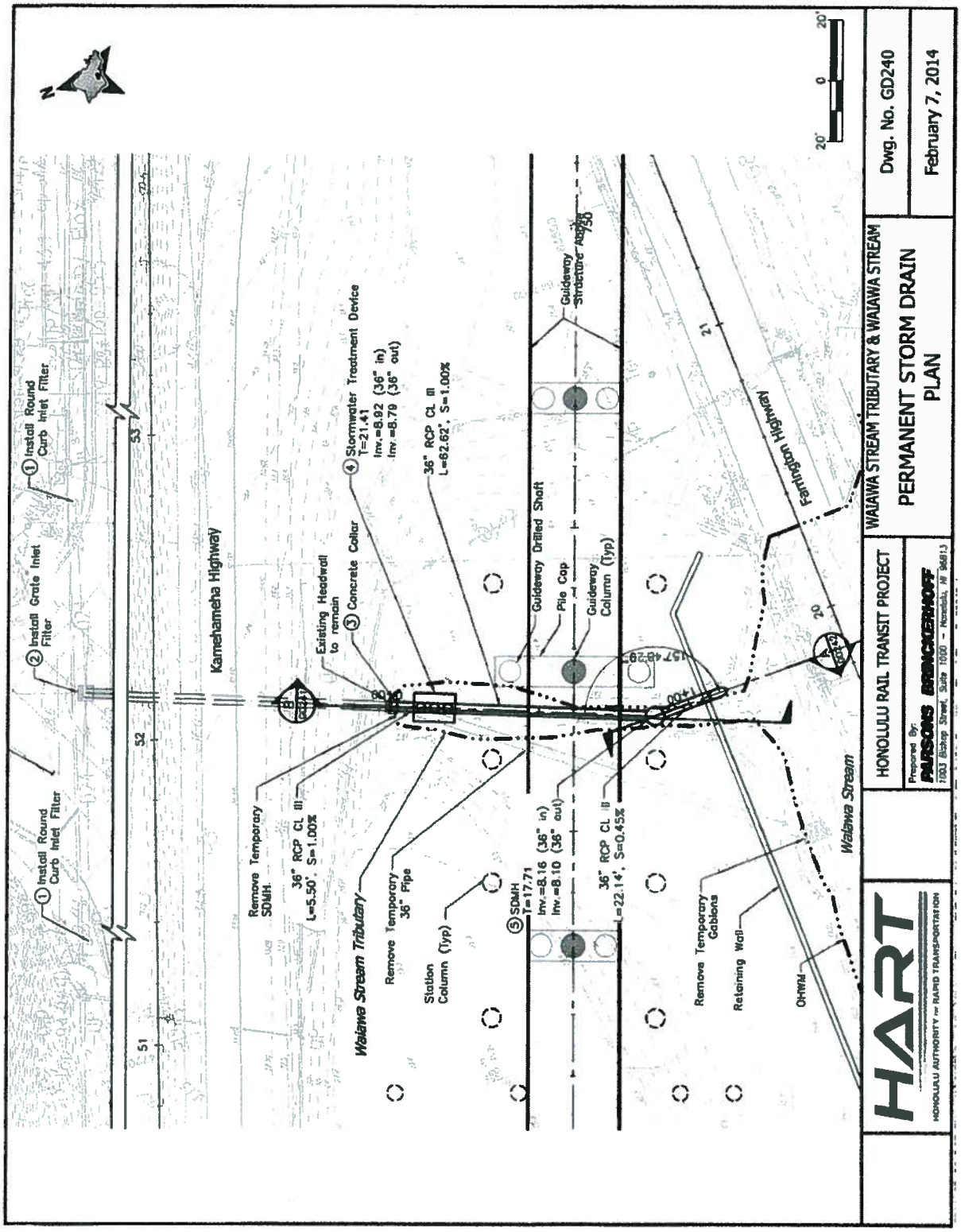

EXHIBIT 4

Stream Bank Protection (1 of 3) Phase 3.

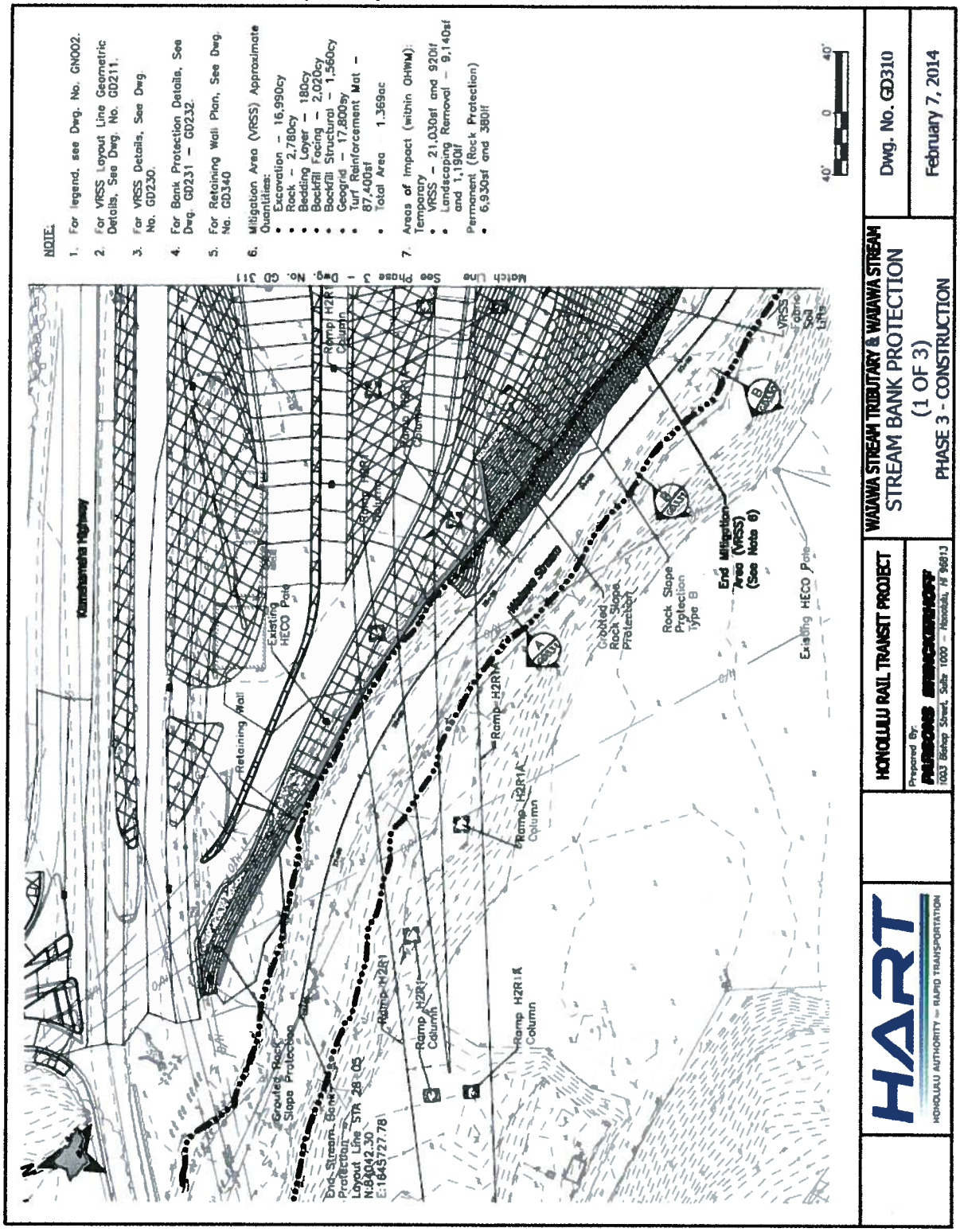

EXHIBIT 5

Stream Bank Protection (2 of 3) Phase 3.

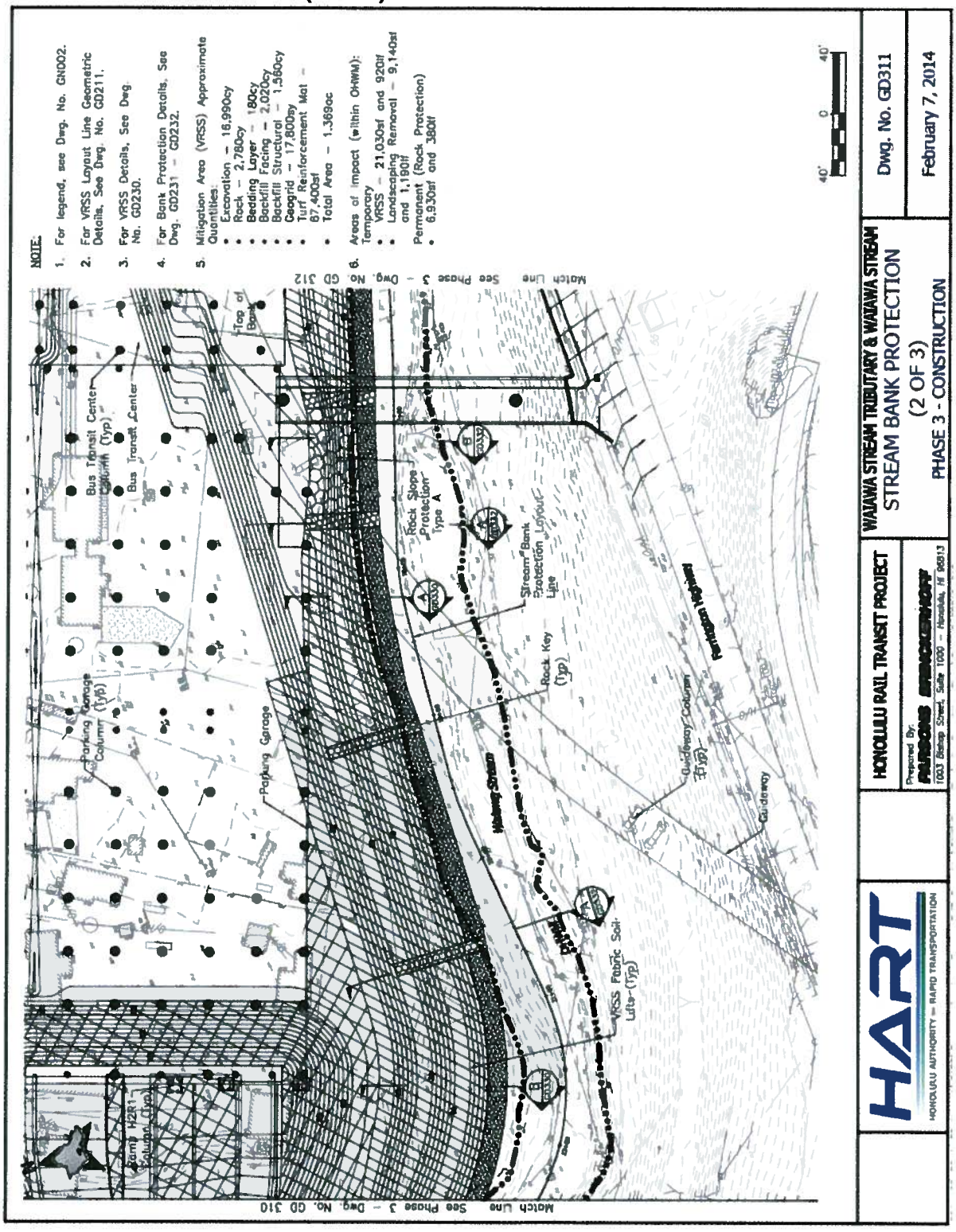

EXHIBIT 6

Stream Bank Protection (3 of 3) Phase 3.

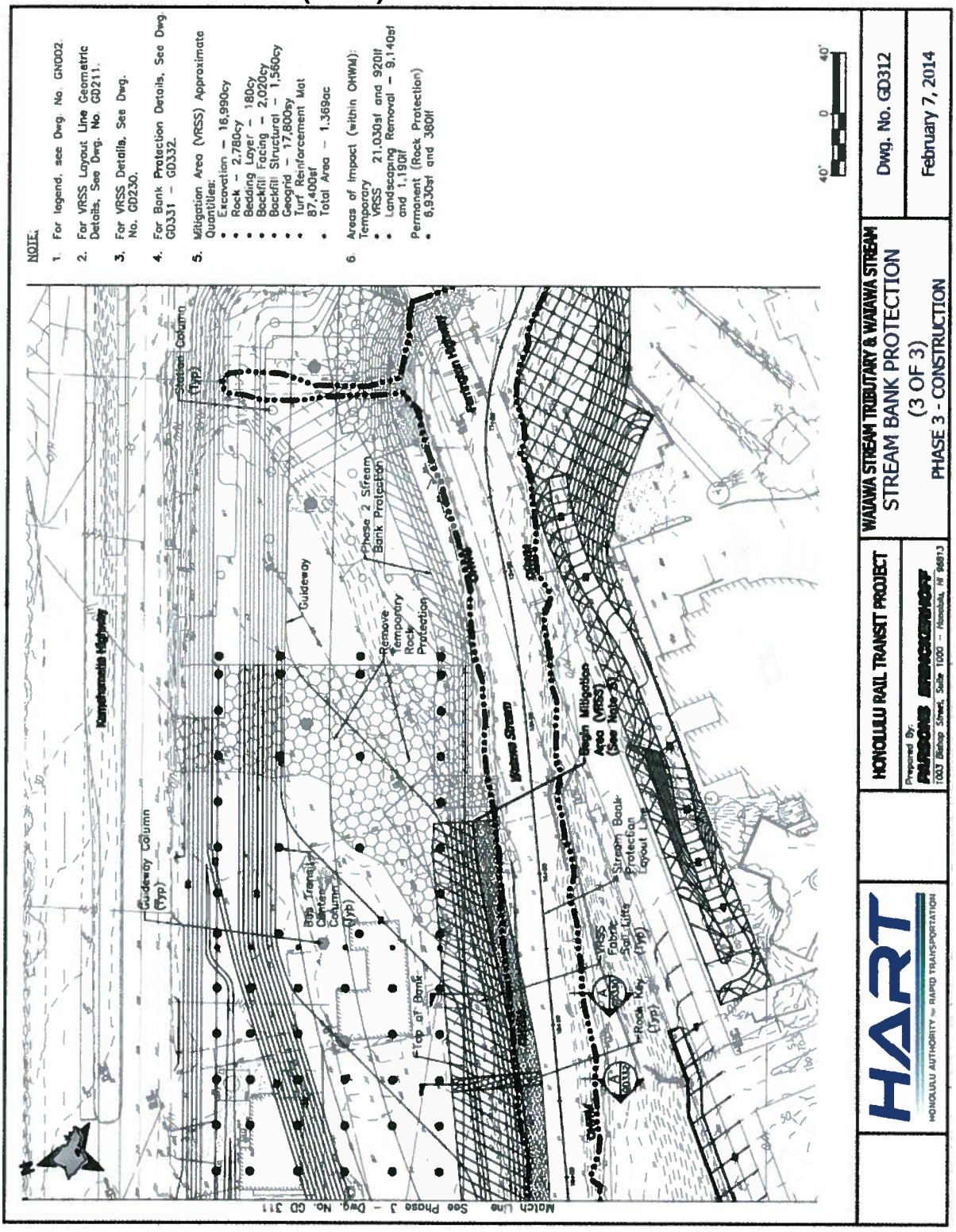

EXHIBIT 7

STANDARD STREAM CHANNEL ALTERATION PERMIT CONDITIONS
(Revised 9/19/07)

1. The permit application and staff submittal approved by the Commission at its meeting on April 17, 2014, shall be incorporated herein by reference.

2. The applicant shall comply with all other applicable statutes, ordinances, and regulations of the Federal, State and county governments.

3. The applicant, his successors, assigns, officers, employees, contractors, agents, and representatives, shall indemnify, defend, and hold the State of Hawaii harmless from and against any claim or demand for loss, liability, or damage including claims for property damage, personal injury, or death arising out of any act or omission of the applicant or his successors, assigns, officers, employees, contractors, and agents under this permit or related to the granting of this permit.

4 The applicant shall notify the Commission, by letter, of the actual dates of project initiation and completion. The applicant shall submit a set of as-built plans and photos of the completed work to the Commission upon completion of this project. This permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The proposed work under this stream channel alteration permit shall be completed within four (4) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Commission upon showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.

5. Before proceeding with any work authorized by the Commission, the applicant shall submit one set of construction plans and specifications to determine consistency with the conditions of the permit and the declarations set forth in the permit application.

6. The applicant shall develop site-specific, construction best management practices (BMPs) that are designed, implemented, operated, and maintained by the applicant and its contractor to properly isolate and confine construction activities and to contain and prevent any potential pollutant(s) discharges from adversely impacting state waters. BMPs shall control erosion and dust during construction and schedule construction activities during periods of low stream flow.

7. The applicant shall protect and preserve the natural character of the stream bank and stream bed to the greatest extent possible. The applicant shall plant or cover lands denuded of vegetation as quickly as possible to prevent erosion and use native plant species common to riparian environments to improve the habitat quality of the stream environment.

8. In the event that subsurface cultural remains such as artifacts, burials or deposits of shells or charcoal are encountered during excavation work, the applicant shall stop work in the area of the find and contact the Department's Historic Preservation Division immediately. Work may commence only after written concurrence by the State Historic Preservation Division.

EXHIBIT 8